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EXAMINER
PARSLEY, DAVID J

ART UNIT	PAPER NUMBER
3643	

DATE MAILED: 04/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/069,954	KANAYA ET AL.
	Examiner	Art Unit
	David J Parsley	3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *07 February 2003* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Detailed Action

Amendment

1. This office action is in response to applicant's amendment (paper no. 8) dated 2-7-03 and this office action is final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 3/1,3/2, 5-6, 7/5 and 7/6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-2 and 5-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims are written as if the shellfish comprises a combination of shrimp and crab and which have differing values for the peak wavelength of the irradiating light. It is unclear to how the device can distinguish between the differing types of shellfish and how the light intensity is changed depending on which type of shellfish is being detected.

Claims 3/1, 3/2 and 7-5, 7/6 depend from rejected claims 1-2 and 5-6 and include all of the limitations of claims 1-2 and 5-6 thereby rendering these dependent claims indefinite.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 3/1, 3/2, 7/5 and 7/6 recite the broad recitation that the shellfish are both shrimp and crab as seen in parent claims 1-2 and 5-6, and the claims also recite the shellfish is only shrimp which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP Patent No. 1-202241 to Hayata et al.

Referring to claim 1, Hayata et al. discloses a method of detecting and removing unstripped residual shell left on a shellfish, comprising irradiating light of specific wave-range onto stripped shellfish after finishing a shell-stripping work on the shellfish, and on the basis of information on the intensity of fluorescent light emitted from the shellfish, determining if there is residual shell on the stripped shellfish and subsequently removing any residual shell, wherein the peak wavelength of the irradiating light is less than 352 nm - see for example figures 1-14 and pages 1-6 where it is inherent that the wavelength is under 352nm since the Hayata et al. device uses an x-ray device and x-rays are commonly small in wavelength less than 352 nm. Hayata et al. does not disclose the shellfish is shrimp and crab. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp.

Referring to claim 5, Hayata et al. discloses an apparatus for detecting and removing unstripped residual shell left on shellfish, the apparatus comprising a means – 32 for irradiating light of specific wave-range onto stripped shellfish – 14 after finishing the shell-stripping work on the shellfish, detection means – 36-44 for detecting a fluorescent light emitted from the shellfish, a means – 52-56 for determining if there is left a residual shell of the shellfish on the stripped shellfish on the basis of information obtained from the detection means, means – at 59 for removing any residual shell on the basis of information from the determining means, where the shellfish has a peak wavelength of irradiating light less than 352nm – see for example figures 1-14 and pages 1-6 where it is inherent that the wavelength is under 352nm since the Hayata et al. device uses an x-ray device and x-rays are commonly small in wavelength less than 352 nm.

Hayata et al. does not disclose the shellfish is shrimp and crab. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayata et al in view of U.S. Patent No. 5,902,177 to Tessier et al.

Referring to claim 1, Hayata et al. discloses a method of detecting and removing unstripped residual shell left on a shellfish, comprising irradiating light of specific wave-range onto stripped shellfish after finishing a shell-stripping work on the shellfish, and on the basis of information on the intensity of fluorescent light emitted from the shellfish, determining if there is residual shell on the stripped shellfish and subsequently removing any residual shell - see for example figures 1-14 and pages 1-6. Hayata et al. does not disclose the shellfish is shrimp and crab. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp. Further, Tessier et al. does disclose the wave-range of the light is not more than 400nm, more preferably around 250nm – see for example columns 14-15 which show the optimum wave-range around 335nm. Therefore it would have been obvious to one of ordinary skill in the art to take the method and device for removing shellfish with residual shell of Hayata et al. and add the wave-range of the light being under 400nm of Tessier et al., so as to allow for the light to be easily detected by a light detection means.

Referring to claim 5, Hayata et al. discloses an apparatus for detecting and removing unstripped residual shell left on shellfish, the apparatus comprising a means – 32 for irradiating light of specific wave-range onto stripped shellfish – 14 after finishing the shell-stripping work on the shellfish, detection means – 36-44 for detecting a fluorescent light emitted from the shellfish, a means – 52-56 for determining if there is left a residual shell of the shellfish on the stripped shellfish on the basis of information obtained from the detection means, means – at 59 for removing any residual shell on the basis of information from the determining means – see for example figures 1-14 and pages 1-6 Hayata et al. does not disclose the shellfish is shrimp and crab. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp. Further, Tessier et al. does disclose the wave-range of the light is not more than 400nm, more preferably around 250nm – see for example columns 14-15 which show the optimum wave-range around 335nm. Therefore it would have been obvious to one of ordinary skill in the art to take the method and device for removing shellfish with residual shell of Hayata et al. and add the wave-range of the light being under 400nm of Tessier et al., so as to allow for the light to be easily detected by a light detection means.

Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayata et al. in view of Tessier et al.

Referring to claim 2, Hayata et al. discloses a method of detecting and removing a stripped shellfish carrying therewith unstripped residual shell, comprising irradiating a light specific wave-range onto the stripped shellfish after finishing a shell-stripping work on the

shellfish, generate a fluorescent light from the stripped shellfish, taking an image of the stripped shellfish, and determining if there is residual shell left on the stripped shellfish on the basis of information to be derived from the image taken up of shellfish on the intensity of the fluorescent light generated from the stripped shellfish, and removing the stripped shellfish if there is any residual shell, wherein the peak wavelength of the irradiated light is less than 400 nm – see for example figures 1-14 and pages 1-6 where it is inherent that the wavelength is under 352nm since the Hayata et al. device uses an x-ray device and x-rays are commonly small in wavelength less than 352 nm.

Hayata et al. does not disclose the shellfish is shrimp and crab. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp.

. Hayata et al. further does not disclose the image is taken by a CCD camera. Tessier et al. does disclose the image is taken by a CCD camera – see for example columns 10-15. Therefore it would have been obvious to one of ordinary skill in the art to take the method of detecting shellfish with unstripped shell of Hayata et al. and add the image taken by a CCD camera, so as to make the method more effective and accurate in that the light can be accurately read with an image being quickly produced.

Referring to claim 2, Hayata et al. discloses a method of detecting and removing a stripped shellfish carrying therewith unstripped residual shell, comprising irradiating a light specific wave-range onto the stripped shellfish after finishing a shell-stripping work on the shellfish, generate a fluorescent light from the stripped shellfish, taking an image of the stripped

shellfish, and determining if there is residual shell left on the stripped shellfish on the basis of information to be derived from the image taken up of shellfish on the intensity of the fluorescent light generated from the stripped shellfish, and removing the stripped shellfish if there is any residual shell – see for example figures 1-14 and pages 1-6.

Hayata et al. does not disclose the shellfish is shrimp and crab. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp. Further, Tessier et al. does disclose the wave-range of the light is not more than 400nm, more preferably around 250nm – see for example columns 14-15 which show the optimum wave-range around 335nm. Therefore it would have been obvious to one of ordinary skill in the art to take the method and device for removing shellfish with residual shell of Hayata et al. and add the wave-range of the light being under 400nm of Tessier et al., so as to allow for the light to be easily detected by a light detection means.

Hayata et al. further does not disclose the image is taken by a CCD camera. Tessier et al. does disclose the image is taken by a CCD camera – see for example columns 10-15. Therefore it would have been obvious to one of ordinary skill in the art to take the method of detecting shellfish with unstripped shell of Hayata et al. and add the image taken by a CCD camera, so as to make the method more effective and accurate in that the light can be accurately read with an image being quickly produced.

Referring to claim 6, Hayata et al. discloses an apparatus for detecting and removing a stripped shellfish carrying therewith unstripped residual shell, the apparatus comprising means –

32 for irradiating a light of specific wave-range onto the stripped shellfish – 14 after finishing a shell-stripping work on the shellfish, thereby enabling fluorescent light to be generated from the stripped shellfish, an image recording device - at 36 disposed to face the stripped shellfish, means – 52-56 for determining if there is a residual shell left on the stripped shellfish on the basis of information on the intensity of fluorescent light that can be obtained from the image taken by the image recording device, and means - 59 for removing the stripped shellfish if there is any residual shell on the basis of information obtained form the determining means, wherein the peak wavelength of the irradiating light is less than 400 nm – see for example figures 1-14 and the pages 1-6 where it is inherent that the wavelength is under 352nm since the Hayata et al. device uses an x-ray device and x-rays are commonly small in wavelength less than 352 nm.

Hayata et al. does not disclose the shellfish is shrimp and crab. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp.

. Hayata et al. further does not disclose the image is taken by a CCD camera. Tessier et al. does disclose the image is taken by a CCD camera – see for example columns 10-15. Therefore it would have been obvious to one of ordinary skill in the art to take the method of detecting shellfish with unstripped shell of Hayata et al. and add the image taken by a CCD camera, so as to make the method more effective and accurate in that the light can be accurately read with an image being quickly produced.

Referring to claim 6, Referring to claim 6, Hayata et al. discloses an apparatus for detecting and removing a stripped shellfish carrying therewith unstripped residual shell, the

apparatus comprising means – 32 for irradiating a light of specific wave-range onto the stripped shellfish – 14 after finishing a shell-stripping work on the shellfish, thereby enabling fluorescent light to be generated from the stripped shellfish, an image recording device - at 36 disposed to face the stripped shellfish, means – 52-56 for determining if there is a residual shell left on the stripped shellfish on the basis of information on the intensity of fluorescent light that can be obtained from the image taken by the image recording device, and means - 59 for removing the stripped shellfish if there is any residual shell on the basis of information obtained form the determining means – see for example figures 1-14 and the pages 1-6.

Hayata et al. does not disclose the shellfish is shrimp and crab. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp. Further, Tessier et al. does disclose the wave-range of the light is not more than 400nm, more preferably around 250nm – see for example columns 14-15 which show the optimum wave-range around 335nm. Therefore it would have been obvious to one of ordinary skill in the art to take the method and device for removing shellfish with residual shell of Hayata et al. and add the wave-range of the light being under 400nm of Tessier et al., so as to allow for the light to be easily detected by a light detection means.

Hayata et al. further does not disclose the image is taken by a CCD camera. Tessier et al. does disclose the image is taken by a CCD camera – see for example columns 10-15. Therefore it would have been obvious to one of ordinary skill in the art to take the method of detecting shellfish with unstripped shell of Hayata et al. and add the image taken by a CCD camera, so as

to make the method more effective and accurate in that the light can be accurately read with an image being quickly produced.

Claims 3/1, 3/2, 7/5 and 7/6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayata et al. or Hayata et al. as modified by Tessier et al. as applied to claims 1-2 and 5-6 above, and further in view of Tessier et al.

Referring to claims 3/1, 3/2, 7/5 and 7/6 Hayata et al. as modified by Tessier et al. does not disclose the shellfish is shrimp and the peak wavelength is 254 nm. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp. Further, Tessier et al. discloses the wavelength is about 314 nm and since 314 nm is close to 254 nm, the 254 nm is about 314 nm. Therefore it would have been obvious to one of ordinary skill in the art to take the method and device for removing shellfish with residual shell of Hayata et al. and add the wave-range of the light being about 254 nm of Tessier et al., so as to allow for the light to be easily detected by a light detection means.

Claims 3/1, 3/2, 7/5 and 7/6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayata et al. as modified by Tessier et al. as applied to claims 1-2 and 5-6 above, and further in view of U.S. Patent No. 4,113,294 to Bolton et al. Hayata et al. as modified by Tessier et al. does not disclose the shellfish is shrimp and the peak wavelength of the irradiated light is 254 nm. However it would have been obvious to one of ordinary skill in the art to use the device of Hayata et al. on shrimp and crab because shrimp and crab are a common shellfish and the device of Hayata et al. would work equally as well with shellfish the size of shrimp. Further,

Bolton et al. discloses the wavelength is 254 nm – see for example column 2 where it is discloses that light at the 254 nm wavelength is used to identify the shell of the shellfish. Therefore it would have been obvious to one of ordinary skill in the art to take the method and device for removing shellfish with residual shell of Hayata et al. and add the wave-range of the light being about 254 nm of Bolton et al., so as to allow for the light to be easily detected by a light detection means.

Response to Arguments

4. Regarding claims 1 and 5, the Hayata et al. reference is different from applicant's invention as stated in the disclosure, however the invention as claimed states the light is irradiated onto the shellfish and thus the x-ray fluorescent plate and x-rays read on the claims as written.

Regarding claims 1-2 and 5-6, as seen above in paragraph 3 of this office action the Hayata et al. reference and the Hayata reference in combination with the Tessier et al. reference discloses the newly added limitations to the claims and therefore render the claims obvious as stated above.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine the references is in the knowledge generally available to those of ordinary skill in the art. The Tessier et al. reference discloses irradiating a light on the ribs of a pork flank for allowing the ribs to emit a fluorescence, which is detected by the device to allow for the location of the ribs to be known for removing the ribs from the pork flank. This is analogous to the Hayata et al. reference, which discloses irradiating a light on the shell of a shellfish to detect the shell so that it can be removed from the meat of the shellfish. Both the Tessier et al. and Hayata et al. references discloses detecting an unwanted substance by irradiating light and then removing the detected substance and thus separating the unwanted substance from the desired meat of the animal being processed. Therefore the Hayata et al. and Tessier et al. references are analogous and can be combined as stated above.

Further, the Tessier et al. reference does disclose the irradiated light passes through the object being processed which is different from applicant's invention as stated in the disclosure. However, the claimed invention as seen in the claims does not state that the irradiated light is not to pass through the object being processed and the claims do not specifically state the shells are only located completely outside the meat of the shellfish. Therefore the Tessier et al. reference discloses the invention as claimed.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to the shelling of shellfish in general:

JP Pat. No. 3-9252 – shows irradiating light to detect a shell of a shellfish

JP Pat. No. 4-59373 to Koide et al. – shows camera used to sort shellfish

7. Any inquiry concerning this communication from the examiner should be directed to David Parsley whose telephone number is (703) 306-0552. The examiner can normally be reached on Monday-Friday from 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor. Peter Poon, can be reached at (703) 308-2574.

PETER M. POON
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